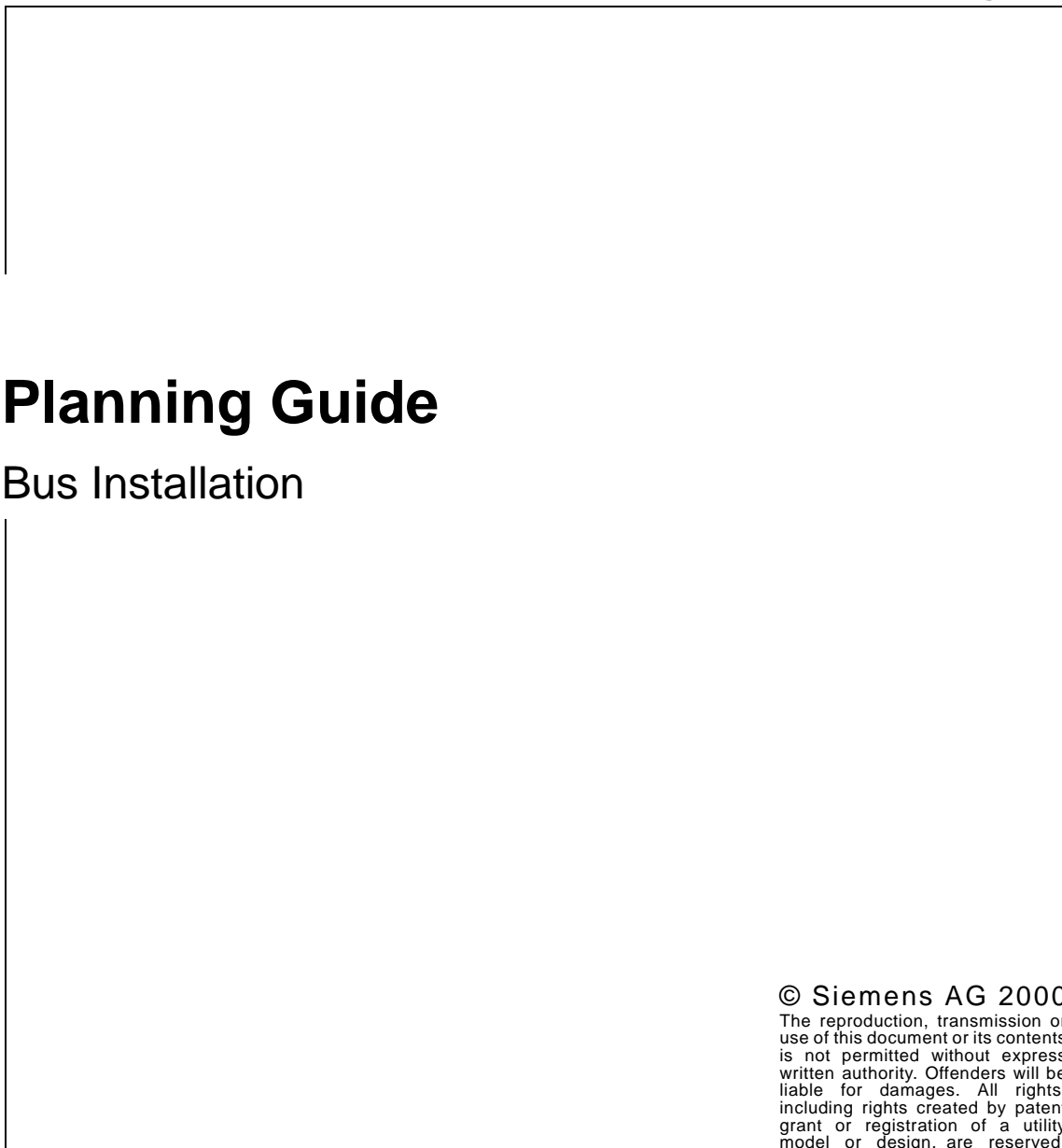


MAMMOMAT 300/1000/3000/3000 Nova



Planning Guide

Bus Installation



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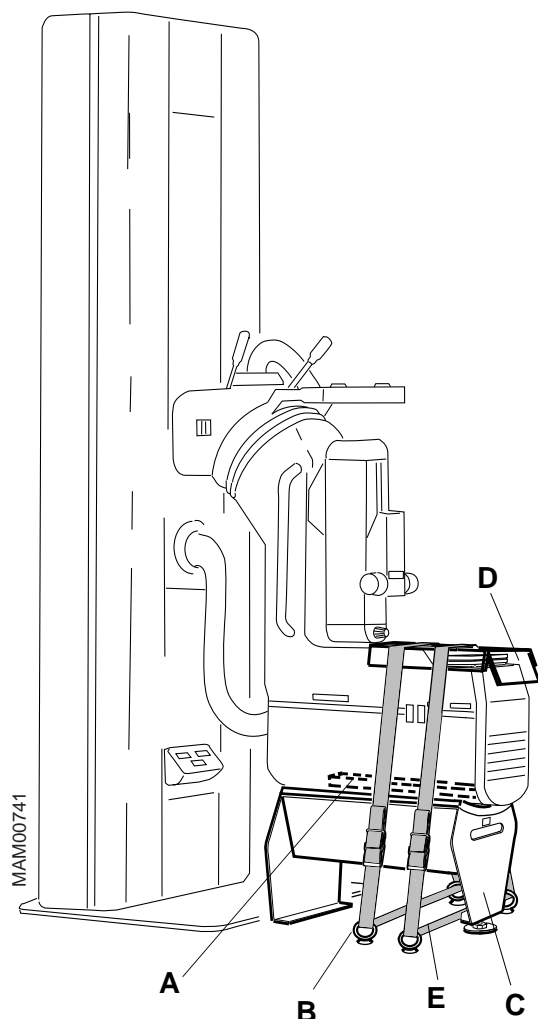
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This document contains descriptions for how to make arrangements for installing a MAMMOMAT 300/ 1000/ 3000/ 3000 Nova in a bus for mobile use.

- The MAMMOMAT has to be modified for bus installation by:
 - attach a *spacer strip* at the tube head, under the top covers, for protection during transport and
 - adjust the switch S883-position, in stand, to prevent unintentional locking, when rotating the swivel arm into transport position.

Bus Installation Kit



Reinforced mounting areas:

- *Mounting areas*, must be reinforced, see requirements and dimensions in section - *Structural integrity of mounting provision* - in this document.

Attachments to the areas:

- Stand; bolts M12×50 and washers
- Generator; bolts M10×45 and washers

For transport safety:

- A** Support strip to be applied under the X-ray tube covers.
- B** Eyebolts
- C** Saddle support
- D** Protecting plate
- E** Tightening belts
- Warning labels, to be placed at generator control panel and bus drivers place.

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The *Bus Installation kit* is designed to support the structure of the MAMMOMAT during transport. The MAMMOMAT must be installed as described and securing devices used during transport.

Environmental Requirements

Climatic Requirements

Temperature

Transport:	Min. -10°C	Max. 70°C
Operation:	Min. +10°C	Max. 40°C

NOTICE

Upon exposures to temperatures lower then +10°C and higher than +40°C, the MAMMOMAT must be temperature stabilized inside Min. - Max. limits before operation.

Relative humidity

Transport:	Up to 100%
Operation:	30 - 70%

NOTICE

Upon exposures to humidity, the MAMMOMAT must be left to dry.

Atmospheric pressure

700 - 1060kPa

Air purity

The air inlets of the vehicle must be filtered.

Heat dissipation

Stand:	Approx. 200 W
Generator:	Approx. 680 W

Mechanical Requirements

Suspension: The MAMMOMAT modified as described in the *Bus Installation Instructions* SPB7-230.031.17..., may be installed in a bus with air suspension or other conventional suspension which limits vibrations as described below.

Vibrations: The installation shall be such that normal vibrations are below 1g with occasional accelerations of up to 2.5 g's.

Resonances: Resonances shall be eliminated as far as possible.

Maximum mass data

Stand:	Max. 300 kg
Generator:	Max. 141 kg
Separate control console:	4 kg
Freestanding radiation shield:	46 kg

Crash safety

The installation shall follow local rules and regulations for crash safety.

Power Supply Requirements

The power supply shall conform to the following requirements:

Power Supply

110 V, single phase
208 V, 230 V, 240 V, 277 V, single or two-phase
400 V, two-phase
50 or 60 Hz

Mains Power cable

Recommended cross-section = 6 mm²

Permissible mains supply fluctuations

±10%

Power supply fuse

20 A at 208, 230, 240, 277 and 400V
35 A at 110 V

Power consumption

10 kVA (momentary)
0.8 kVA (continuous)

I_{max.}

40 A at 230 V,
80 A at 110 V (single phase),
35 A at 400 V (two-phase)

Maximum line resistance for full generator power

0.25 Ohm at 110 V (single phase)
0.45 Ohm at 208 V
0.50 Ohm at 230 V
0.60 Ohm at 240 V
0.65 Ohm at 277 V
0.85 Ohm at 400 V (two- phase)

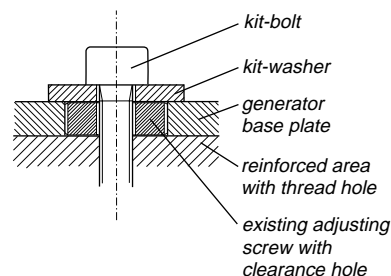
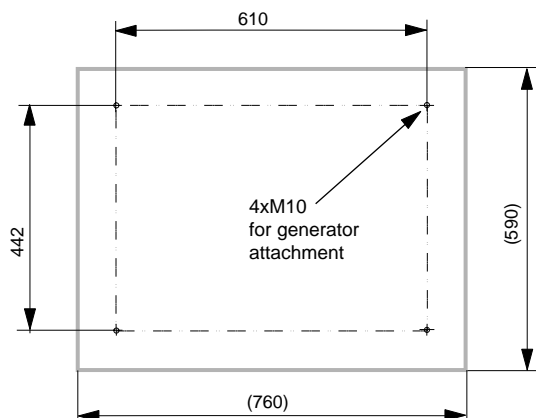
Safety

The installation shall follow local rules and regulations for safety.

Structural Integrity of Mounting Provisions

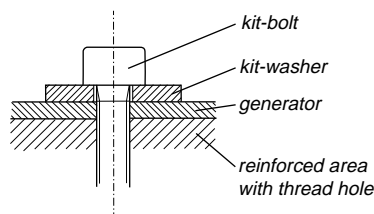
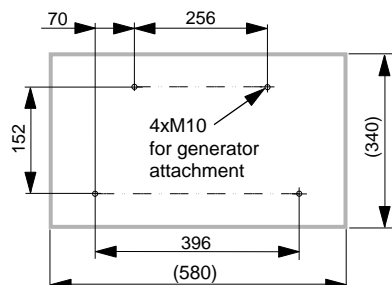
The MAMMOMAT *stand*, *generator* and *free-standing radiation shield* must be installed on reinforced areas with dimensions per figures below.

Reinforced Area for the Generator



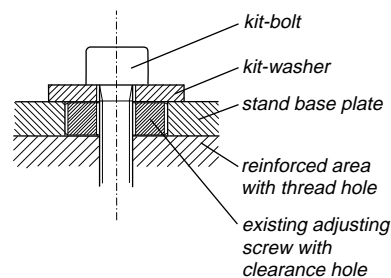
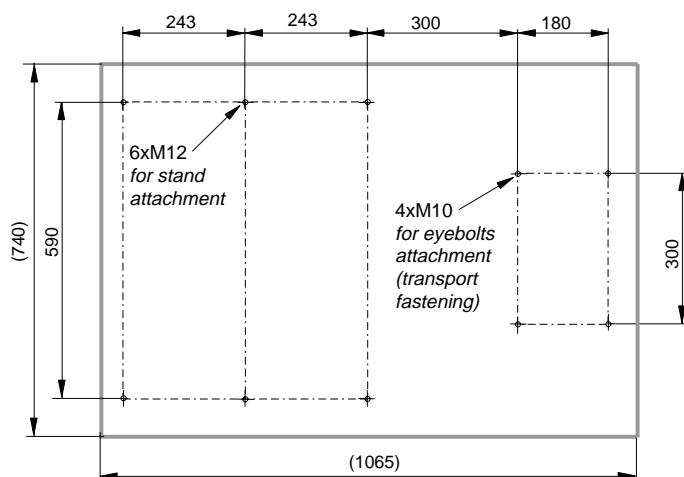
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Reinforced Area for the Generator with Separated Control Console



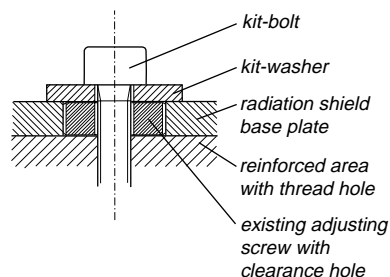
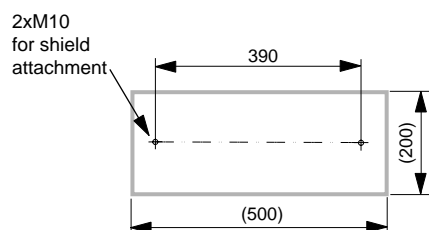
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Reinforced Area for the Stand



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Reinforced Area for the Free-standing Radiation Shield



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The reinforced area must be ≥ 10 mm steel plate or made from other material providing equal stiffness.

The mounting area shall be equipped with threaded mounting holes, see figures.

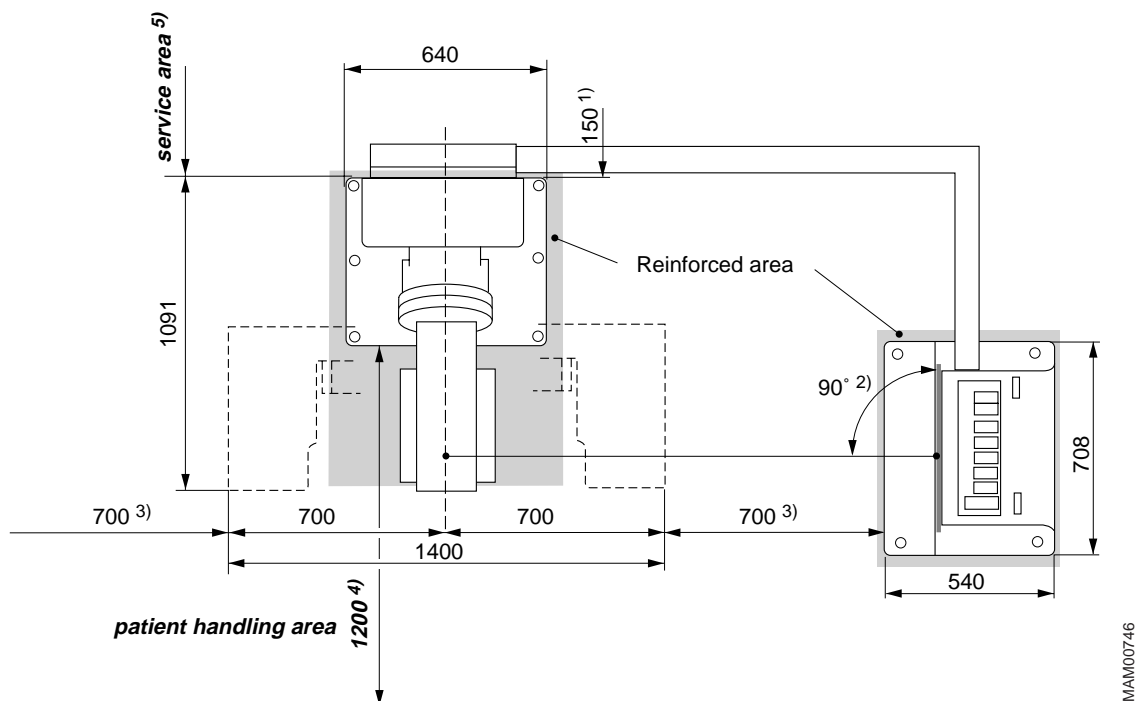
The mounting provisions for the stand and the generator shall be structurally sound so that 5 g's of acceleration in any direction can be supported.

Radiation Protection

The bus shall provide shielding for radiation in accordance with local regulations.

Arranging the Components

Plan the disposition of the stand and the generator in accordance with given space for service and possible areas for patient handling.

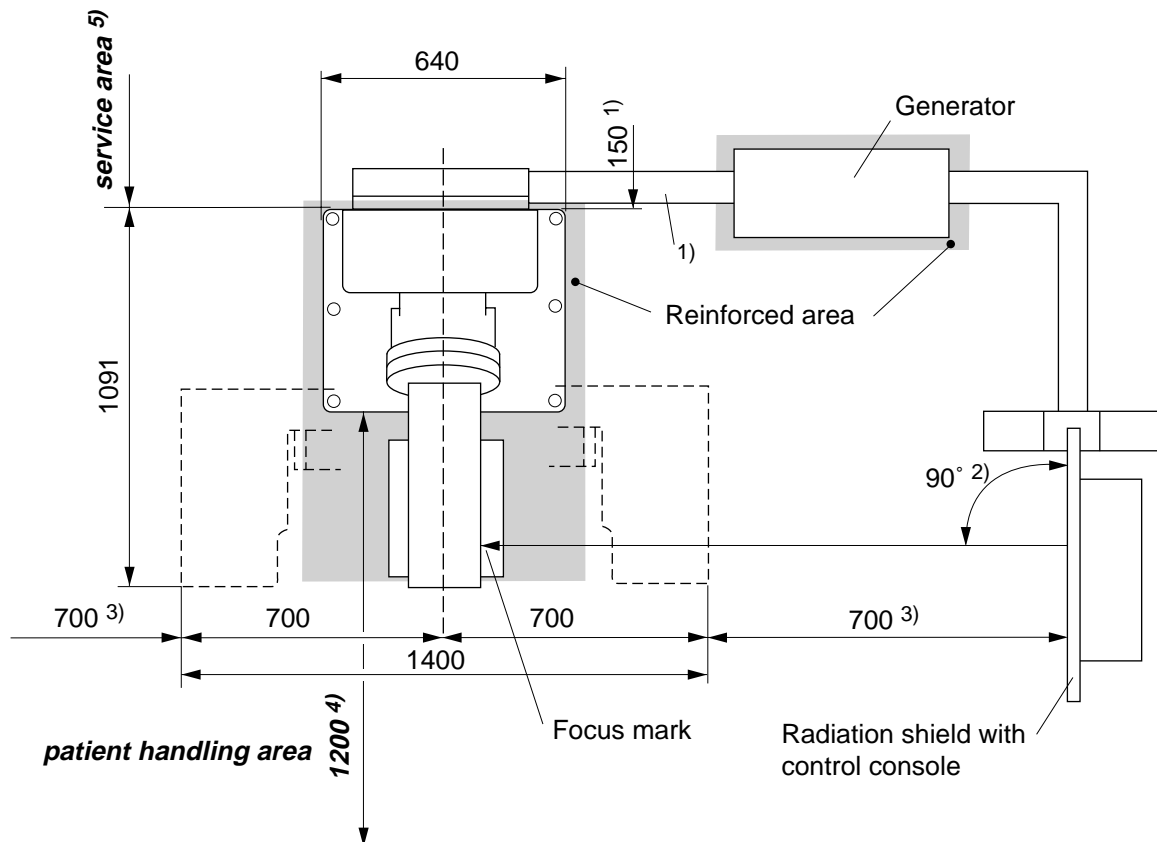


1. For installation of the cable duct, a minimum distance of 150 mm between wall and stand is required.

Cable duct and generator with radiation shield can be installed optionally to the left or right of the stand. Maximum cable length between stand and generator is approximately 3.5 meter.

2. Radiation shield perpendicular to visual line between generator and focus of the tube head.
3. Recommended minimum distance to wall and generator base plate respectively is 700 mm (shorter distances may be used at the customer's desire, if in compliance with local regulations).
4. Recommended distance for patient handling is minimum 1200 mm between wall and stand base. *Observe that patients with wheel chairs need extra space.*
5. For service access behind the stand; the stand must be removable or accessible from outside.

Arranging the Separated Generator and Radiation Shield for the MAMMOMAT



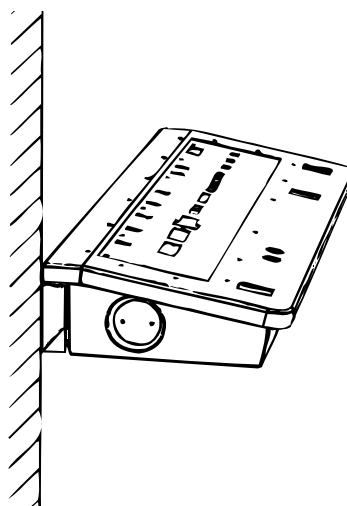
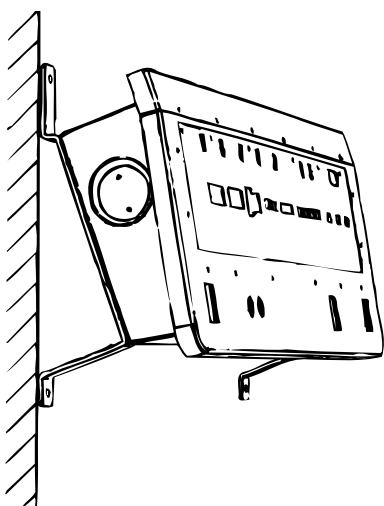
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1. Cable duct and generator can be installed either to the right or left of the column. Max. cable length between column and generator is approximately 3.5 m. Maintain a minimum distance of 150 mm between the wall and the column when installing the cable duct.
2. Radiation shield perpendicular to visual line between radiation shield and focus of the tube head. Lead equivalent value of the radiation protection shield: 0.3 mm Pb/110 kV or 0.1 mm Pb/110 kV.
3. Recommended minimum distance to wall, generator and radiation shield respectively is 700 mm (shorter distance may be used at the customer's desire, if in compliance with local regulations).
4. Recommended distance for patient handling is minimum 1200 mm between wall and stand base. *Observe that patients with wheel chairs need extra space.*
5. For service access behind the stand; the stand must be removable or accessible from outside.

Arranging the Separate Control Console for the MAMMOMAT

NOTICE

If the system is not equipped with the optional radiation shield, attach the separate control console to the wall located behind an on-site radiation shield. Max. cable length to the generator is 10 m. No additional cable ducts are delivered for this configuration. They can be ordered, item number 11 85 599 G2116, if required between the generator and the separate control console.



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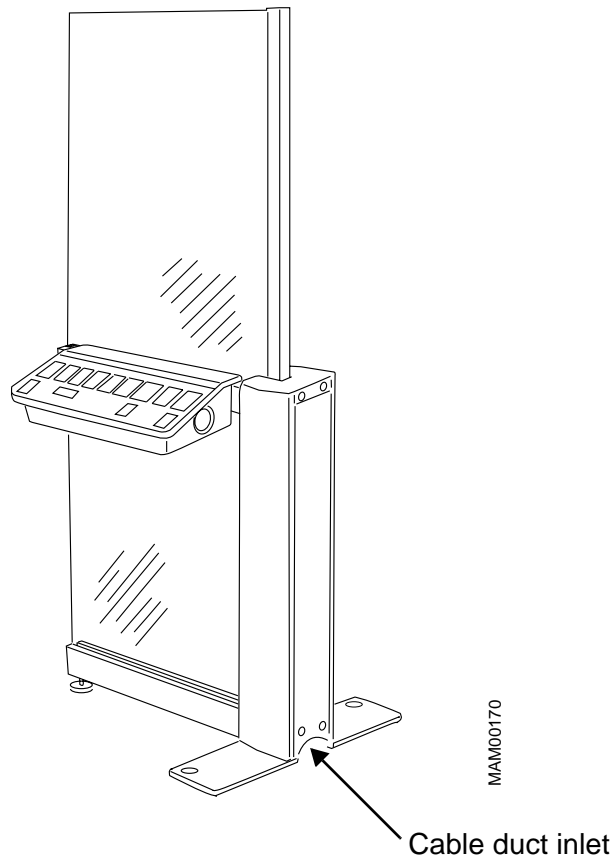
Attach the separate control console vertically or horizontally. The parts for attaching the separate control console are included in the delivery volume.

NOTICE

Anchors and screws for wall mounting are not supplied. Obtain these locally and ensure that they are suitable for the material used in the wall.

The separate control console can alternatively be mounted on a table. The minimum/maximum length of the screws penetrating into the separate control console must be observed.

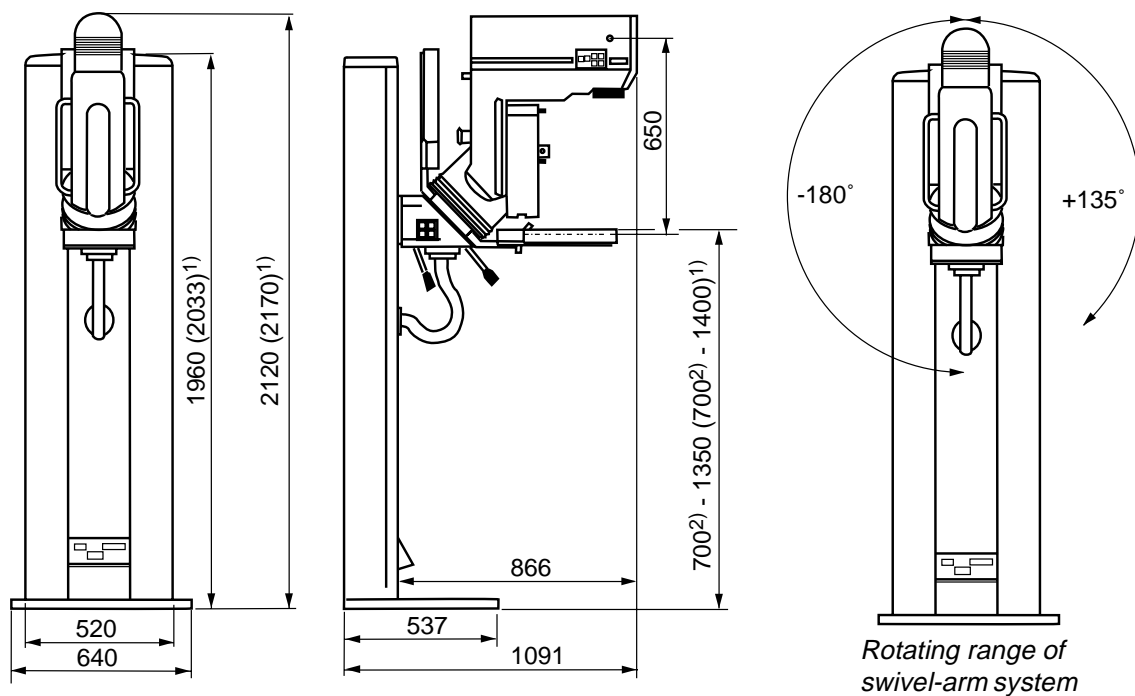
The control console can also be mounted on either side of the free-standing radiation shield (option) as shown in figure below. See separate instructions enclosed with the radiation shield.



Dimensions

All dimensions in mm.

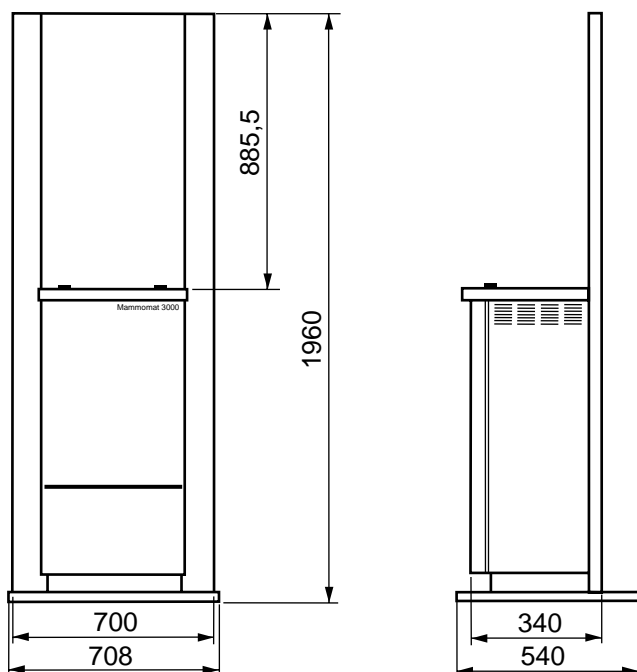
Stand



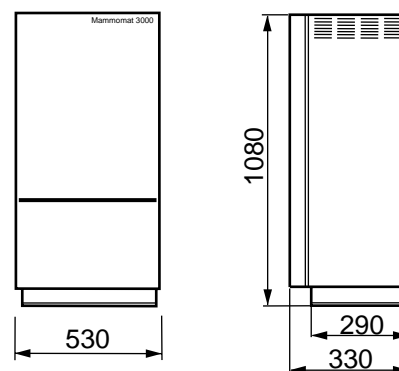
1) Dimensions in brackets refer to MAMMOMAT 1000/3000/3000 Nova

2) Bus Installed MAMMOMATs have an object table height range from 700 mm in lieu of 650 mm for stationary mounted units.

Generator with Radiation Shield

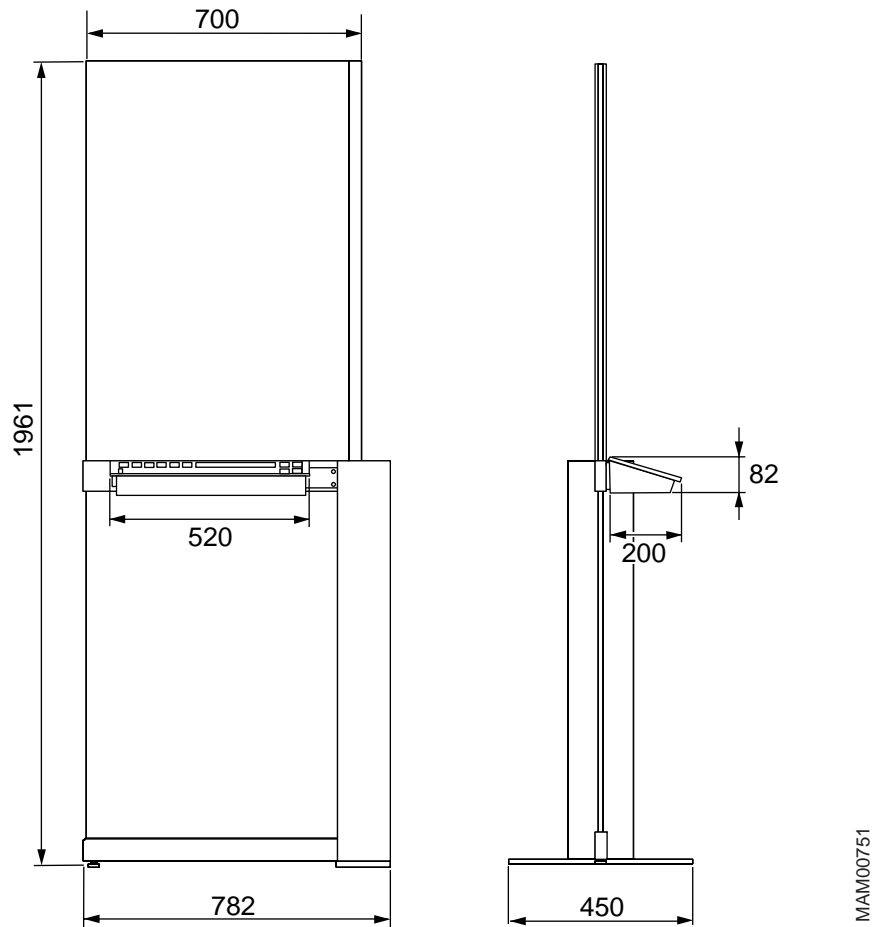


Separated Generator



MAMM00750

Free-standing Radiation Shield



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